SUSPEND

WP 05-WH1705

Revision 10

RH Canister Transfer System

Technical Procedure

EFFECTIVE DATE: 04/18/13

Randy Britain
APPROVED FOR USE

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CHANGE HISTORY SUMMARY

REVISION NUMBER	DATE ISSUED	DESCRIPTION OF CHANGES
9	12/05/12	• Editorial changes in accordance with MD 1.1.
10	04/18/13	• Added JHA PROD-182 and Hazardous Waste Facility Permit to References table. • Removed 10th bullet under Precautions and Limitations concerning safety apparel. • Changed “verify” to “ensure” in 8th bullet under step 1.5. • Added wording to note above step 2.1 concerning equipment configurations.

INTRODUCTION [1]

This procedure provides the instructions for inspecting and conducting the preoperational checks, prior to the start of a remote-handled (RH) waste-handling evolution, on the RH Canister Shuttle Car (CSC) (41-H-019), Telescoping Port Shield (41-N-013), Transfer Cell Shield Valve (41-N-003), Cask Unloading Room Shield Valve (41-N-165), Hot Cell Shield Valve (41-N-101), Lid Detensioning Robot (41-T-236), and Swipe Robot (41-T-237).

Implementation of this procedure generates quality records in the Equipment Logbook.

REFERENCES			
DOCUMENT NUMBER AND TITLE	BASELINE DOCUMENT	REFERENCED DOCUMENT	KEY STEP
40 CFR §264.15, "General Inspection Requirements"		✓	
Hazardous Waste Facility Permit, EPA Identification Number NM4890139088	✓		**1**
DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis*	✓		
DOE/WIPP-07-3373, *Waste Isolation Pilot Plant Technical Safety Requirements*	✓		
WP 13-1, *Nuclear Waste Partnership LLC Quality Assurance Program Description*	✓		
WP 05-WH1719, *25-Ton Cask Unloading Room Crane*		✓	
WP 05-WH1721, *6.25-Ton Fixed Hoist and Facility Grapple*		✓	
WP 05-WH1742, *Hot Cell Bridge Crane 41-T-104*		✓	
WP 04-IM1000, *Issues Management Processing of WIPP Forms*		✓	
JHA PROD-182, *Canister Shuttle Car*	✓		

PRECAUTIONS AND LIMITATIONS

- Preoperational checks are to be completed prior to the start of each RH waste handling evolution for the 72-B Road Cask or prior to downloading 10-160B Facility Canisters.
- Only personnel qualified as a Waste Handling Technician/Engineer (WHT/WHE), or trainees operating under the direct supervision of qualified WHT/WHE, are authorized to perform the Waste Handling activities specified in this procedure.

- If this procedure cannot be performed as written or in sequence, WHE should be contacted.

- After initial close-down of the Transfer Cell and Door #70 is locked, a job-specific Radiation Work Permit (RWP) and approval from the Facility Shift Manager (FSM) is required for entry into the Transfer Cell.

- The Closed-Circuit Television cameras may be used at any time to verify conditions in the Transfer Cell.

- Access to Transfer Cell is controlled when RH waste is present, and during RH waste transfer to the FCLR or from upper Hot Cell.

- Access to upper and lower Hot Cell is controlled when RH waste is present in upper Hot Cell.

- CUR is required to be unoccupied with CUR Shield Door closed, when removing drums from a 10-160B Cask or when RH waste is in the upper Hot Cell and the shield plugs are removed.

- The following interlocks are associated with the operation of the Canister Transfer System:

  - Only one of the three shield valves, the Transfer Cell Shield Valve (41-N-003), the Cask Unloading Room Shield Valve (41-N-165), or the Hot Cell Shield Valve (41-N-101), can be open at a time.

  - The CSC must be at position Y1 or Y2; the Telescoping Port Shield must be up and mated with the Shield Bell or the Facility Cask; and the Canister Transfer System Mode switch on Control Panel 411-CP-264-04 must be on ASSY to open or close the Transfer Cell Shield Valve (41-N-003).

  - The CSC must be at position X to open the Hot Cell Shield Valve (41-N-101).

  - The CSC must be at position W and the Cask Unloading Room Crane must be at the HOME position with Trolley full north and Bridge full west to open the Cask Unloading Room Shield Valve (41-N-165).

  - The Cask Unloading Room Crane must be at the upper limit to close the Cask Unloading Room Shield Valve (41-N-165).

- Both Robots must be at the HOME position and the Transfer Cell Shield Valve (41-N-003), the Cask Unloading Room Shield Valve (41-N-165), and the Hot Cell Shield Valve (41-N-101), must be closed to move the CSC.

- The Transfer Cell Shield Valve (41-N-003) must be closed to lower the Telescoping Port Shield.

- Equipment Logbook must be reviewed by WHE on a weekly basis, generally the last day of the workweek.

- The Push to Test button may be used on 411-CP-264-04 at any time to confirm all lamps are working.

PREREQUISITE ACTIONS

1.0 Review Equipment Logbook for outstanding deficiencies and Action Requests (ARs).

2.0 If a required inspection becomes delinquent, perform the following:

2.1 Immediately notify Site Environmental Compliance (SEC) of the delinquent inspection.

2.2 Schedule and complete the required inspection.

2.3 Document the following in a letter to SEC within five working days:

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2.3.1 Schedule of inspection

2.3.2 Reason(s) why the inspection was not performed.

2.3.3 Any measures taken to offset negative impacts resulting from not performing the inspection.

2.3.4 Actions to prevent further delinquencies

2.4 **GO TO** WP 04-IM1000, and ensure a WIPP Form is initiated.

3.0 WHE, verify the following preoperational checks are completed:

- 6.25-Ton Fixed Hoist and Facility Grapple per WP 05-WH1721

- 25-Ton Cask Unloading Room Crane per WP 05-WH1719

- 15-Ton Hot Cell Bridge Crane per WP 05-WH1742, if needed

PERFORMANCE

1.0 PREOPERATIONAL CHECKS

1.1 Record equipment numbers and Not Applicable (N/A) run hours in Equipment Logbook.

1.2 Ensure CSC disconnect switch, 41P-SW04/66, in the Service Room is **ON**.

CAUTION

After initial close down of the Transfer Cell and Door #70 is locked, a job-specific RWP and approval from the FSM is required for entry into the Transfer Cell.

1.3 Ensure the Hot Cell Shield Valve (41-N-101) is closed.

1.4 Ensure the CCTV system is **ON** in the Cask Unloading Room and Service Room.

1.5 Perform the following at Control Panel 411-CP-264-04:

- Ensure the CCTV is **ON**.
- Ensure Main E-STOP button (HS-236-06A) is **OUT**.
- Verify SHIELD VALVE 41-N-003 CLOSE lamp is **ON**.
- Ensure CANISTER SHUTTLE CAR switch is in AUTO.
- Ensure CANISTER TRANSFER SYSTEM MODE switch is in ASSY.
- Verify CUR VALVE CLOSED lamp is **ON**.
- Verify ROBOTS HOME indicating lamp is **ON**.
- Ensure CLR PORT ROAD CASK POS Y1 lamp is **ON**, indicating the CSC is at position Y1.
- Ensure position Y camera shows alignment with the cask basket using laser indication (Camera #5 with Diamond Marker #1).

1.6 Ensure there are no obstacles in the CSC path, using CCTV.

1.7 **IF** laser indication is not in alignment,
THEN perform the following:

1.7.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.

1.7.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.

1.7.3 Press FORWARD or REVERSE button until laser indication is aligned properly.

1.7.4 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.

1.7.5 Place CANISTER SHUTTLE CAR switch in AUTO.

1.8 Ensure the cover from Telescoping Port Shield is removed.

1.9 Press TEL PORT SHIELD 41-N-013 **UP** button.

1.10 Verify TEL PORT SHIELD 41-N-013 **UP** lamp is **ON**.

1.11 Verify TEL PORT SHIELD 41-N-013 **DOWN** lamp is **OFF**.

1.12 Ensure the GRAPPLE HOIST 41-H-022 switch is in AUTO.

1.13 Push HOIST POS E button to initiate lowering the Grapple Hoist to position E.

- Verify HOIST POS E indicating lamp is **FLASHING**.
- Verify HOIST LOWERING indicating lamp is **ON**.

1.14 When hoist reaches position E, verify HOIST LOWERING lamp turns **OFF** and HOIST POS E lamp is **ON**.

1.15 Push the SHIELD VALVE 41-N-003 **OPEN** button.

1.16 Verify the SHIELD VALVE 41-N-003 **OPEN** indicating lamp is **ON**.

1.17 Verify the SHIELD VALVE 41-N-003 **CLOSE** indicating lamp is **OFF**.

1.18 Press the SHIELD VALVE 41-N-003 **CLOSE** button.

1.19 Verify the SHIELD VALVE 41-N-003 **CLOSE** indicating lamp is **ON**.

1.20 Verify the SHIELD VALVE 41-N-003 **OPEN** indicating lamp is **OFF**.

1.21 Push HOIST POS A button to initiate raising the Grapple Hoist to position A (upper limit).

- Verify HOIST POS A indicating lamp is **FLASHING**.
- Verify HOIST LIFTING indicating lamp is **ON**.

1.22 Press TEL PORT SHIELD 41-N-013 **DOWN** button.

1.23 When hoist reaches position A verify HOIST LIFTING lamp turns **OFF** and HOIST POS A lamp is **ON**.

1.24 Verify TEL PORT SHIELD 41-N-013 **DOWN** lamp is **ON**.

1.25 Verify TEL PORT SHIELD 41-N-013 **UP** lamp is **OFF** after the Telescoping Port Shield is down.

1.26 Press CLR PORT LID STORAGE POS Y2 button to initiate CSC movement to the inner lid storage location (position Y2).

1.27 Verify CLR PORT LID STORAGE POS Y2 lamp is **ON**, indicating the CSC is at position Y2.

1.28 Ensure position Y camera shows alignment with the lid platform using laser indication (Camera #5 with Diamond Marker #2).

1.29 **IF** laser indication is not in alignment,
THEN perform the following:

1.29.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.

1.29.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.

1.29.3 Press FORWARD or REVERSE button until laser indication is aligned properly.

1.29.4 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.

1.29.5 Place CANISTER SHUTTLE CAR switch in AUTO.

1.30 Press HOT CELL PORT LID DET POS X button to initiate CSC movement to the detension location (position X).

1.31 Verify HOT CELL PORT LID DET POS X lamp is **ON**, indicating the CSC is at position X.

1.32 Ensure position X camera shows alignment with the cask basket using laser indication (Camera #4 with Diamond Marker #1).

1.33 **IF** laser indication is not in alignment,
THEN perform the following:

1.33.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.

1.33.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.

1.33.3 Press FORWARD or REVERSE button until laser indication is aligned properly.

1.33.4 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.

1.33.5 Place CANISTER SHUTTLE CAR switch in AUTO.

1.34 **IF** downloading 10-160B Facility Canister,
THEN perform the following at Control Panel 411-CP-236-09,
IF NOT, **GO TO** step 1.35.

1.34.1 Verify preoperational checks are complete on 15-Ton Hot Cell Bridge Crane.

1.34.2 Place Hot Cell Crane over Hot Cell Shield Valve.

1.34.3 Ensure EMG SHUT DOWN button is **OUT**.

1.34.4 Verify PERMISSIVE TO OPEN SHIELD VALVE 41-N-101 lamp is **ON**.

1.34.5 Verify SHIELD VALVE CLOSED lamp is **ON**.

1.34.6 Turn SHIELD VALVE OPEN/CLOSE switch to **OPEN**.

1.34.7 Verify SHIELD VALVE OPEN lamp is **ON**.

1.34.8 Verify SHIELD VALVE CLOSED lamp is **OFF**.

1.34.9 Verify PERMISSIVE TO CLOSE SHIELD VALVE 41-N-101 lamp is **ON**.

1.34.10 Turn SHIELD VALVE OPEN/CLOSE switch to **CLOSE**.

1.34.11 Verify shield valve OPEN lamp is **OFF**.

1.34.12 Verify SHIELD VALVE CLOSED lamp is **ON**.

1.34.13 Turn Hot Cell Crane **OFF**.

1.35 Perform the following at Control Panel 411-CP-264-04:

1.35.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in ASSY.

1.35.2 Press CUR PORT ROAD CASK POS W button to initiate CSC movement to Cask Unloading Room port (position W).

1.35.3 Verify CUR PORT ROAD CASK POS W lamp is **ON**, indicating the CSC is at position W.

1.35.4 Ensure position W camera shows alignment with the cask basket using laser indication (Camera #6 with Diamond Marker #1).

1.36 **IF** laser indication is not in alignment, or EAST END OVERTRAVEL STOP lamp is **ON**,
THEN perform the following:

1.36.1 Ensure CANISTER TRANSFER SYSTEM MODE switch is in XFER.

1.36.2 Ensure CANISTER SHUTTLE CAR switch is in MAN.

1.36.3 Press FORWARD or REVERSE button until laser indication is aligned properly, and EAST END OVERTRAVEL STOP lamp is **OFF**, as applicable.

1.36.4 Place CANISTER TRANSFER SYSTEM MODE switch in ASSY.

1.36.5 Place CANISTER SHUTTLE CAR switch in AUTO.

1.37 Perform the following at Control Panel 411-CP04/157:

1.37.1 Ensure EMERGENCY STOP button is **OUT**.

1.37.2 Ensure Key switch is in **MAN**.

1.37.3 Press START button.

1.37.4 Verify POWER ON lamp is **ON**.

1.37.5 Ensure Crane is in the HOME position with Trolley full north and Bridge full west.

1.37.6 Verify white HOIST IN POSITION lamp is **ON**.

1.37.7 Verify the OPEN PERMISSIVE lamp is **ON**.

1.37.8 Turn and hold the Cask Unloading Room Shield Valve OPEN-CLOSE switch to **OPEN**.

1.37.9 Release switch when the CLOSED lamp is **OFF**.

1.37.10 Verify the OPEN lamp is **ON**.

1.37.11 Turn and hold the Cask Unloading Room Shield Valve OPEN-CLOSE switch to **CLOSE**.

1.37.12 Release switch when the OPEN lamp is **OFF**.

1.37.13 Verify the CLOSED lamp is **ON**.

1.37.14 Turn CUR Crane **OFF**.

1.38 Initiate ARs to address any deficiencies that **CANNOT** be corrected by Waste Handling Operations.

1.39 WH perform the following:

1.39.1 Notify WHE of any deficiencies discovered during preoperational checks and the status of each (i.e., deficiencies corrected and ARs generated).

1.39.2 Notify WHE and report status of preoperational check.

1.40 Record the following information in Equipment Logbook:

- Deficiencies noted
- Corrective Actions taken (outstanding/newly generated ARs, etc.)

- Preoperational checks are completed for the 72-B **OR** 10-160B evolution

1.41 Enter time, date, and signature in Equipment Logbook to document performance of preoperational checks.

2.0 CANISTER TRANSFER SYSTEM OPERATION

NOTE

Section 2.0 should only be performed in support of maintenance, training activities and to ensure safe equipment configuration.

2.1 Ensure the following at Control Panel 411-CP-264-04:

- Main E-STOP button (HS-236-06A) is **OUT**.
- SHIELD VALVE 41-N-003 **CLOSE** lamp is **ON**.
- CUR VALVE CLOSED lamp is **ON**.
- ROBOTS HOME indicating lamp is **ON**.

2.2 Ensure there are no obstacles in the path of the CSC using the CCTV system.

2.3 Operate the appropriate controls to perform the desired function and/or operation.

3.0 CANISTER TRANSFER SYSTEM SHUTDOWN

3.1 Perform the following at Control Panel 411-CP-264-04:

3.1.1 Verify SHIELD VALVE 41-N-003 **CLOSE** lamp is **ON**.

3.1.2 Verify CUR VALVE CLOSED lamp is **ON**.

3.1.3 Verify ROBOTS HOME indicating lamp is **ON**.

3.2 Place the CANISTER TRANSFER SYSTEM MODE switch in **NEUT**.

3.3 Remove key.

3.4 Ensure CCTV cameras are logged off.